

OUTRATA, Jiri

"Technology for fitters" by [Dr. ing.] Sergio Gaggia.  
Reviewed by Jiri Outrata. Stroj vyr 12 no.4:313 Ap'64.

OUTRATA, Jiri

"Tools and machines for metal-cutting" by D.H. Bruina. Vol. 2.  
Reviewed by Jiri Outrata. Stroj vyr 11 no.6:327 Je '63.

OUTRATA, Jiri

"Machine tools for economical production" by A.Lawry et al.  
Reviewed by Jiri Outrata. Stroj vyr 12 no. 5:13 My '64.

"Machine shop operations and setups" by H.W.Porter, O.D.  
Lascoe, C.H.Lawshe; Reviewed by Jiri Outrata. Ibid., 1965

OUTRATA, Jiri

"Tools and machine tools" by H.D. Bruins. Reviewed by Jiri Outrata.  
Stroj vyr 10 no.12:637 '62.

OUTRATA, Jiri

"Machine tools" by Werner Charchut. Reviewed by Jiri Outrata.  
Stroj vyr 11 no.1:56 '63.

OUTRATA, Jiri

Machine tools with digital control. Stroj vyr 10 no 4:212 iz 62.

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

OUTRATA, J., inz.

"Dynamic analysis of machines" by J.E. Shigley. Reviewed by J. Outrata.  
Strojirenstvi 12 no. 1:77-78 Jr '72.

APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

L 29957-66

ACC NR: AP6006151

(A)

SOURCE CODE: CZ/0078/65/000/01C/001, 001

AUTHOR: Tomanek, Evzen (engineer) (Plague); Ouzky, F. (Uvaly)

ORG: None

TITLE: (A circuit for regulating controlled silicon rectifiers)  
CZ Pat. No. PV 1408-65

SOURCE: Vynalezy, no. 10, 1965, 10-11

TOPIC TAGS: silicon diode, semiconductor device, transistor, rectification

ABSTRACT: A circuit for regulating controlled silicon rectifiers in full-wave circuits is described which is distinguished by the feature that to the full-wave secondary coil of the power transformer are connected high voltage rectifier tubes which are connected in parallel through a charging resistor to a discharge diode which in turn is connected to an integrating condenser connected at the other end to the middle of the same coil of the power transformer to which is also connected a self-inductance. The other end of the self-inductance is connected to the mounting of both high voltage rectifier tubes and to the middle of the power transformer mentioned above and through the feedback coil of the blocking transformer is connected the base of a transistor which is likewise connected to a series combination constituted by the source of secondary voltage, the source of regulating voltage and

Card 1/2

OUZKY, Josef, inz.

Opening and exploitation of ore deposits. Rudy 11 no.1:33-35  
Ja '63.

Ouzky, Vaclav

Ten volumes of the periodical "Sdelovaci technika". Sdel tech  
10 no.12:441 D '62.

1. Namestek ministra vseobecneho strojirenstvi.

CKY, V.

The weak-current electric industry enters the new year. p.1

SOCIALISTICKA TECHNIKA. Praha, Czechoslovakia, Vol. 3, No. 1, Jan. 1

Monthly List of East European Accessions (EPA), Lj. Vol. 5, No. 1, August 1  
"ncl.

OUZKY, Vaclav

40 years of the Communist Party of Czechoslovakia. Slaboproudý  
obzor 22 no.5:257 '61. (EEAI 10:7)

1. Predseda Statniho vyboru pro rozvoj techniky.  
(Czechoslovakia—Communist Party)

CUZKY, Vaclav

Fifteen years. Slaboproudý obzor 21 no.5:257 My '60. (EEAI 9:8)

1. Ministr-predseseda Statniho vyboru pro rozvoj techniky.  
(Czechoslovakia--Economic policy)

OUKY, V.

Significance of standardization in the period of technical revolution.  
p. 49.

Normalizace. (Brud normativy) Praha, Czechoslovakia.  
Vol. 7, no. 4, Oct. 1959

Monthly list of East European Acquisitions (EWA) EC, v. 5, no. 1, Jan.  
1960

Uncl.

Ouzky, Vaclav

New techniques in the development of our power engineering.  
Energetika Cz ll no.3:129-131 Mr 'ol.

1. Predseda Statniho vyboru pro rozvoj techniky.

SUZKY, V.

40 years of Soviet science and technology.

F. 7-5. (Hradec Králové, Czechoslovakia) Vol. 1+, no. 1, 1987.

Joint Country Index of East European Periodicals (ECAI) LC Vol. 1, 1987.

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

SPAIN, 1980

The new year in the week current information, p.l. (see back to back, 1979, 1980, 1981, 1982)  
Zedler, Berlin

^: Monthly List of East European Access to UNAID, Vol. 1, no. 7, May 1980.

APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

Ousky, V.

Ousky, V. Last results and new tasks of research and production. p. 1.

Vol. 18, no. 1, Jan. 1957  
SLABOPROUDY OBZOR  
TECHNOLOGY  
Czechoslovakia

So. East European Accessions, Vol. 6, May 1957  
No. 5

CUZKY, Vaclav

Ten years of the Telecommunication Research Institute. Slaboproudý  
obzor 24 no.10;561-563 O '63.

1. Namestek ministra všeobecného strojírenství.

CZ/38-6C-1-2,24

AUTHOR: Ouzký, Václav, Minister, Chairman

TITLE: Tasks of Nuclear Energy.

PERIODICAL: Jaderná Energia, 1960, No. 1, pp. 1 - 2

TEXT: This article is a review of the achievements in the fields of nuclear energy in the CSR during the past five years, followed by a preview of the most urgent problems to be solved in the future. The author mentions the construction of a nuclear research center at Rež near Prague, which will be completed this year; the conclusion of planning and preparations for the construction of the first nuclear power plant; the establishment of a number of research centers working on radio-isotopes and nuclear radiation; the progress in applications of nuclear energy in such fields as medicine, biology, agriculture, etc; the establishment of a faculty for nuclear science and a school of nuclear energy; and finally, the creation of the Atomic Energy Commission. The author regards as the foremost tasks for the future the completion of the nuclear power plant. Another prominent problem will be practical applications

Card 1/2

Tasks of Nuclear Energy.

CZ/38-60-1-2/24

of various radioactive substances, especially in industry. A new field for the use of nuclear radiation will be in chemistry. The most important project, however, will be the industrial exploitation of experimental findings.

ASSOCIATIONS: Státního výboru pro rozvoj techniky (Government for the Development of Technology); Komise pro atomovou energii (Commission for Atomic Energy)

✓

Card 2/2

KOROBOV, M.M.; RAYEV, Z.A.; NALISTOV, I.P.; OVADIOVICH, I.Ya.

Operating procedure of innovator A.M.Prikhod'ko in the pneumatic malting unit. Spirt.prom.21 no.3:43-45 '55. (MIRA 8:12)

1. NTIPP, Kiyevskiy filial Vsesoyuznogo Nauchno-issledovatel'skogo instituta spirtovoy promyshlennosti i Kiyevskiy spirtotrest.  
(Malt)

KOROBOV, M.M.; MALETOV, I.P.; OVADIEVICH, I.Ya.; SYCH, P.K.

Use of a pneumatic-tube system at the Trilesty Alcohol Plant.  
Spirt.prom.22 no.1:27-28 '56. (MLRA 9:7)

1.Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti imeni Mikeyama (for Korobov).2.Kiyevskiy spirtevyy trust (for Malesov, Ovadievich).3.Trilestskiy spirtevyy zavod (for Sych).  
(Pneumatic-tube transportation)

RABINOVICH, B.D.; OVADIOVICH, I.Ya.

Using superheated steam in the continuous cooking of starchy raw materials. Spirt.prom. 25 no.1:24-25 '59. (MIRA 12:2)  
(Distilling industries) (Alcohol)

NALETOV, I.F.; OVADIOVICH, I.Ya.

Simplified type of elevator for green malt. Spirt.prom. 21 no.1:41  
'55. (MLRA 8:5)

1. Kiyevskiy spirtovyy trest.  
(Distilling industries--Equipment and supplies)

Ovadovskiy, I. M.

CHACHANIZZE, G.Z., inshener; OVADOVSKIY, I.M., kandidat tekhnicheskikh nauk.

Experience in producing prestressed floor slabs with the aid of  
a combined concreting unit. Bet. i.shel.-bet.no.7:233-236 O '55.  
(Floors, Concrete) (MILRA 9:1)

AKHVERDOV, I.N.; kand.tekhn.nauk; OVADOVSKIY, I M., kand.tekhn.nauk

Experience in manufacturing large-diameter high-pressure  
reinforced concrete conduits. Stroi.prom. 35 no.6:6-9 Je  
'57. (MIRA 10:10)

(Pipe, Concrete)

OVADOVSKIY, I.M., kandidat tekhnicheskikh nauk

Some problems in the technology of producing prestressed floor  
panels with concreting machinery. Stroi.prom.33 no.6:12-15 Je  
'55. (MIRA 8:10)

(Floors, Concrete)

CVATCVSKY; TVERIS'KII, (Eng.)

Electric Insulators and Insulation

Fastening wires to porcelain trunks, insulation of high-voltage lines. Elektr. struci. tekhn. 2, no. 11, July 1955.

9. Monthly List of Russian Accessions, Library of Congress, November 1951, Vol. 2

AKHVERDOV, I.N., kandidat tekhnicheskikh nauk; OVADOVSKIY, I.M., kandidat tekhnicheskikh nauk; TUMANISHVILI, V.A., inzhener; POPOV, A.N., kandidat tekhnicheskikh nauk, nauchnyy redaktor; BEGAK, B.A., redaktor izdatel'stva; BOROVNEV, N.K., tekhnicheskiy redaktor

[Prestressed reinforced concrete floor slabs in the building industry; manufacture and use] Napriazhennye armirovannye plity-nastily v stroitel'stve; izgotovlenie i primenenie. Moskva, Gos. izd-vo lit-ry po stroyit. i arkhitekture, 1956. 96 p.  
(Prestressed concrete)  
(Concrete slabs) (MLRA 9:10)

Справка о книге

AKHVERDOV, I.N., kandidat tekhnicheskikh nauk; GODZIYEV, N.S., kandidat  
tekhnicheskikh nauk; OVADOVSKIY, I.M., kandidat tekhnicheskikh nauk;  
KAUFMAN, B.N., kandidat tekhnicheskikh nauk, redaktor; ROSTOVTSIEVA,  
N.P., redaktor; PERSON, M.N., tekhnicheskiv redaktor

[Lightweight concrete] Legkii beton. Moskva, Gos. izd-vo lit-ry po  
stroitel'stvu i arkhitekture, 1955. 98 p. (MLRA 8;6)  
(Lightweight concrete)

OVAGIM, E.

They stride forward.

p. 9 (ZA RODINATA) Vol. 7, no. 7, July 1957,  
Sofia, Bulgaria

SO: Monthly Index of East European Acquisitions (EMAI) LC, Vol. 7, No. 3,  
March 1958

OVAGIMOV, O.; MINCHEV, M.

~~Case of malignant melanoma. Suvrem. med., Sofia 9 no.3:110-112 1958.~~

1. Iz fakultetskata vutreshna klinika pro VMI--Plovdiv (Zavezhdashch katedrata: prof. M. Rashev).

(MELANOMA, case reports

face, caused by razor-blade irritation of pigmented nevus (Bul))

(FACE, neoplasjs,

melanoma, caused by razor-blade irritation of pigmented nevus (Bul))

BOYKIM EVA, S. [Boikimeva, S.]; YONKOV, St. [Ionkov, St.]; STOIKOV, St. [Stoikov, St.] OVAGUMOV, O.

Therapeutic effects in the treatment of the interstitial neuritis using glutamic acid electrophoresis. Folia med. (Plovdiv) no. 5:320-328 1964

1. Institut de Santé Etudes Médicales "I.P. Pavlova" de Plovdiv, Bulgarie, Chaire de Thérapie de Faculté avec Physiothérapie. (Directeur: prof. B. Breukov).

ATANASOVA, D.; MORDOHAJ, M.; NOTOV, At.; OVAGIMOV, O.; SHISHKOV, V.;  
STANCHEV, -v.; CANEV, K.; BOTEVA, Z.,dr.

Observations on agricultural workers using organic phosphoric  
compounds. Folia med. (Plovdiv) 7 no.1:39-43 '65

1. Higher Medical Institute "I.P.Pavlov" in Plovdiv, Bulgaria,  
Chair of Faculty Therapy (Chief: prof. B. Jurukov); Health  
and Anti-Epidemic Station in Plovdiv (Chief Physician: Hr.  
Hristov); and Health Centre, Railway Station, Kricim (Chief  
Physician: Z. Boteva).

OVAKIMOV, A.G., assistant

Using the method of velocity and acceleration bundles in determining velocities and accelerations of three-dimensional three-bar linkages having a higher pair (elements of a higher pair are surface and line). Izv. vys. ucheb. zav.; mashinostr. no.11/12:22-34 '58. (MIRA 13:3)

1. Moskovskiy aviationsionnyy institut.  
(Links and link motion)

SOV/145-58-7/8 3/24

25 (1)

AUTHOR: Ovakimov, A.G., Aspirant

TITLE: Application of the Zhukovskiy Lever for Estimation of  
Space Mechanism Power

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Mashino-  
stroyeniye, 1958, Nr 7-8, pp 17-24 (USSR)

ABSTRACT: The application of the Zhukovskiy lever for estimation  
of flat mechanism power has been discussed by V A  
Goranskiy in his work entitled "Power Estimation of  
Flat Mechanisms and Girders". Proceedings of the Se-  
minar on the Theory of Mechanisms and Machines, Vo-  
lume XIII, Issue 50, published by the AS USSR, 1953  
[1], and by M.G. Zalesskiy in his candidate disser-  
tation "Application of the Lever of Zhukovskiy for  
Estimation of Reactions in Kinematic Pairs of Flat  
Mechanisms", Khar'kov, 1954 [2]. This method is very  
convenient as it permits determining reaction forces  
in any kinematic pair without estimating the power  
of the whole mechanism. This article considers the ✓

Card 1/3

SCV 140-18787-14

Application of the Zhukovsky Lever for Estimation of Space Mechanism Power

ASSOCIATION: Moskovskiy aviazionnyy institut (Moscow Aviation Institute)

SUBMITTED: June 20, 1988

✓

Card 3/3

OVAKIMOV, A. S., Cand of Sciences --- (diss) "Kinematic Investigation  
and Kinetostatic Calculation of Spacial Mechanisms. (Some Types of  
Three-member and Four member Mechanisms),"  
Moscow, 1959, 13 pp (Ministry of Higher and Secondary Specialist  
Education RSFSR. Moscow Institute of Aviation imeni Serge Grigorevich  
(KL, 6-CC, 123)

OVAKIMOV, A.G., kand.tekhn.nauk

Analytic determination of the minimum radius of a cam. Izv.vys.  
ucheb.zav.; mashinostr. no.6:28-34 '62. (MIRA 15:11)

1. Moskovskiy aviatcionnyy institut.  
(Cams)

OVAKIMOV, A.G., aspirant

Using the Zhukovskii lever in force analysis of three-dimensional mechanisms. Izv.vys.ucheb.zav.; mashinostr. no.7/8:17-24 '58.  
(MIRA 12:8)

1. Moskovskiy aviationsionnyy institut.  
(Mechanical movements)

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

OVAKIMOV, A.G.

Investigating the precision of a rectilinear writing mechanism.  
Teor. mash i mekhan. no. 111 . . :25-94 '4.  
(MIRA 17:1)

APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

OVAKIMOV, A.G., kand. tekhn. nauk

Passive connections of a group of three-dimensional mechanisms with  
a plane of symmetry. Iz. vys. ucheb. zav.; mashinostroyen. fak.  
Mash. i Prib.

OVAKIMOV, N.A.

Results of the construction of medical and children's institutions  
on collective farms of the R.S.R.S.R. in 1959. Zdrav. Ros. Feder.  
4 no.6:45-46 Je '60. (MIRA 13:9)  
(HOSPITALS, RURAL) (CHILDREN--INSTITUTIONAL CARE)

OVAKIMOV, V.G.; KHMRAZOV, N.A. [deceased]; LIZUNOV, Yu.I.

pharmacological characteristics of some tropine compounds.  
Farm. i toks. zh. no.1: -12 Ja-F '74.

(MIRK I-1)

1. laboratoriya eksperimental'noy farmakologii zav. - prof.  
N.A. Kharazov [deceased] - otdeika farmakologii zav. - deyst-  
vite l'nyyy otdeleniye AMN SSSR prof. G.V. Frichkov Institut eks-  
perimental'noy meditsiny AMN SSSR.

OVAKIMOV, V.G. (Moskva)

Effect of prolonged internal irradiation with radioactive  
zinc on the bioelectrical activity of the rabbit brain. Med.  
rad. no. 1:45-46'63. (MIRA 16:10)  
(ZINC ISOTOPES—PHYSIOLOGICAL EFFECT)  
(ELECTROENCEPHALOGRAPHY)

OVAKIMOV, V.S.; BIBIKHIN, L.N.; SAYTANOV, A.O.

Changes in the electrocardiogram of rabbits subjected to the chronic action of radioactive zinc following intravenous administration of adrenaline and ammonia inhalation. Med. rad. 8 no.9: 55-61 S'63.  
(MIRA 17:4)

1. Iz laboratori<sup>i</sup> radioteknologii (zav. - prof. E.B. Kurlyandskaya) Instituta gigieny truda i professional'nykh zabolеваний (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A. Letavet) AMN SSSR i Instituta meditsinskoy radiologii AMN SSSR.

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

RECORDED AND INDEXED

SEARCHED AND SERIALIZED

FILED AND FILE NUMBER 14-14-14-14-14-14

SEARCHED AND SERIALIZED

FILED

APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

|  |  |
|--|--|
| L 39546-65   | ENG(j) /EMT(n)   |
| ACCESSION NR: AP5015733  | UR/0205/65/005/003/0423/0427 17<br>628,58 : 577,391 15         |
| AUTHOR: Yarmonenko, S. P.; Ovakimov, V. G.; Palyga, G. F.; Fedoseyev, V. M.; Tarasenko, A. G.  | B 19   |
| TITLE: Fractional distribution of AET in animals associated with the quantity of agent administered, the route of administration, and irradiation conditions   | irradiation and the effect of chemical radioprotective agents. |
| SOURCE: Radiobiologiya, v. 5, no. 3, 1965, 423-427   |  |
| TOPIC TAGS: radioprotective agent, AET, blood, liver, X irradiation, radiology   |  |
| ABSTRACT: The relative distribution of AET-S <sup>35</sup> in irradiated mice does not depend on the dose of the preparation used. Judging by the reduced effect observed after simultaneous decrease in the amount of the protective agent and the radiation dose applied fractionally, this finding tends to contradict the view that the mercaptosulfhydryl groups have an anti-radical or disulfide mechanism of action. The AET content of mouse blood and liver reaches a maximum 2½ minutes after intraperitoneal injection, and begins to decrease about 28 minutes later. S <sup>35</sup> gradually concentrates in the |  |
| Card 1/2   |  |

|   |                       |
|---|-----------------------|
| L 50546-65  |                       |
| ACCESSION NR: AP5015733   | 2                     |
| <p>brain, reaching a maximum 30 minutes after injection. When doses of AET known to be fatal are injected, the absolute amount of the compound in the brain when the animal died is one-half to one-fourth that when tolerable doses are used. Consequently, central action plays a secondary role in the mechanism of acute toxicity of AET. The authors conclude that the weakened protective effect of AET with fractional irradiation or with simultaneous decrease in amount of the protective agent or radiation dose is unrelated to any change in the distribution of AET in the organism. They conjecture that by retarding the compound, irradiation helps to intensify its toxicity. Orig. art. has: 7 tables.</p> |                       |
| <p>ASSOCIATION: Institut gigiyeny truda i profzabolevaniy AMN SSSR, Moscow (Institute of Industrial Hygiene and Occupational Diseases, AMN SSSR); Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)</p>   |                       |
| SUBMITTED: 30Jun64  | ENCL: 00 SUB CODE: LS |
| NO REF Sov: 009   | OTHER: 001            |
| <i>llc</i><br>Card 2/2  |                       |

L 27529-66 EWT(m)

ACC NM AP6012247

SOURCE CODE: UR/0205/65/005/006/0899/0906

21  
B

AUTHOR: Yarmonenko, S. P.; Ovskimov, V. G.; Ol'shevskaya, O. P.;  
Levrenchik, Ye. I.

ORG: Institute of Sanitary Works and Professional Diseases, AMN SSSR,  
Moscow (Institut gigiyeny truda i profzaboleleniy AMN SSSR)

TITLE: Effect of antiradiation agents under fractionated irradiation  
conditions. 2. Protective effect with different dosages and time  
intervals between irradiations

SOURCE: Radiobiologiya, v. 5, no. 6, 1965, 899-906

TOPIC TAGS: bone marrow, radiation biologic effect, radiation sickness,  
antiradiation drug, mouse

ABSTRACT: This study was conducted to provide new data necessary for  
understanding the action of protectors in fractionated irradiation. The  
effects of intraperitoneal injections of AET (aminoethylisothiuronium  
dihydrobromide), cystaphos (sodium beta-aminoethylthiophosphate), and  
5-MOT (5-methoxytryptamine hydrochloride) on the number of karyocytes,  
blood leukocytes and spleen weight were noted. In mice injected with  
AET, three days after single total irradiation or fractionated irradiation  
with dosages in the 270-700 r range, the number of bone marrow cells was

Card 1/2

UDC: 628.58

2

Ovakimyan G. J.

Distr: b6b1/b7c (j)

and A. A. Heer, Klim-Noska 11708-2, 14-1143587).  
Precautions for the ethylene-CCl<sub>4</sub> reaction were worked out.  
By regulating the reaction conditions and especially the  
C<sub>2</sub>H<sub>4</sub>/CCl<sub>4</sub> ratio, polymers of desired mol. wt. can be ob-  
tained. V. S. Mil'nikov

DM

1/1  
5  
2 - May  
2

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

OVAKIMYAN, A. A. inzh.

Problems of long-term development of the wine-making  
industry in Armenia. From. Arm. 6 no.11:7-11 N '63.  
(MIRA 17:1)

APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

OVAKIMIAN, A.

Expand and regulate interbranch cooperative deliveries. Prom.Arm.  
6 no.2:10-12 F '63. (MIRA 16:5)

1. Zamestitel' nachal'nika Tekhnicheskogo upravleniya Soveta  
narodnogo khozyaystva Armyanskoy SSR.  
(Armenia—Industrial management)

OVALINA, A. I.

Ovalinyan, A. I. "Armenia," Soviet Armenia,  
Kliniki w. Taly (Ver. v. 1. 1980. 1-11, 1-11, 1-11) --  
Armenia -- Summary -- S.S. 1

So: U-3 50, 1. March 3, (Letter to US Central Agency, 30 March, 1980)

AFANAS'YEV, I.B.; OVAKIMYAN, G.B.; YEREMINA, T.N.; VORONINA, I.B.;  
SHAYE'S, L.K.; BEER, A.A.

Synthesis of diamines, dicarboxylic acids, and  
chloro-substituted monocarboxylic acids based on telomers of  
chlorobromomethane with ethylene. Khim.prom. no.10:709-712  
(MIRA 15:12)  
O '62.

(Amines)  
(Acids, Organic)  
(Polymers)

"APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

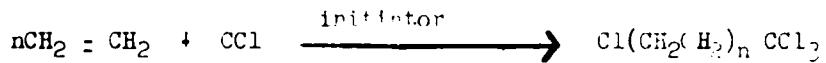
APPROVED FOR RELEASE: Wednesday, June 21, 2000

CIA-RDP86-00513R001238

OVAKIMYAN, G. V.

"The Reaction of Telomerization Between Ethylene and Carbon Tetrachloride," by G. V. Ovakimyan, M. A. Besprizvannyy, and A. A. Beyer, Candidate of Chemical Sciences, Khimicheskaya Nauka i Promyshlennost', Vol 2, No 1, Jan/Feb 57, pp 13-19

The telomerization reaction



is described on the basis of data given by R. Joyce, W. Hanford, and J. Harmon (Journal of the American Chemical Society, Vol 70, 1948, p 2528; US Patent No 2440800, 1948; Chemical Abstracts, Vol 42, 1948, p 4373), who discovered this reaction. Results obtained by Joyce and others and other American investigators are compared with those obtained in research done in the USSR at the Institute of Organoelemental Compounds, Academy of Sciences USSR, and the State Institute of the Nitrogen Industry. The initiation of the telomerization process by radiation from  $\text{Co}^{60}$  is discussed by the authors on the basis of results obtained in their own experimental work. (U)

SUM.1391

BABAYAN, A.T.; INDZHIKYAN, M.G.; GRIGORYAN, A.A.; MINASYAN, R.B.;  
OVAKIMYAN, M.Zh.

Amines and ammonium compounds. Part 26: Alkaline decomposition  
of 1,4-diammonium salts with a butyn-2-ylene central radical  
and side radicals of the allyl type. Izv. AN Arm. SSR. Khim.  
nauki 18 no.2:166-174 '65. (MIFPA 1P-1)

1. Institut organicheskoy khimii AN ArmSSR. Submitted April  
24, 1964.

L 23582-66 EWT(m)/EWP(j)/T RM  
ACC NR: AP600 5283 (A)

SOURCE CODE: UR/0413/66/000/001/0025/0025

INVENTOR: Khaylov, V. S.; Artem'yev, A. A.; Ovakimyan, G. B.; Zhuzhikov, V. A.;  
Nosov, G. P.

ORG: none

TITLE: Method of preparing E-caprolactam, Class 12, No. 177421

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 25

TOPIC TAGS: caprolactam nitration

ABSTRACT: An Author Certificate has been issued describing a method for preparing E-caprolactam for cyclohexane by liquid-phase nitration with nitric acid and hydrogen reduction of the nitrocyclohexane on metallic copper in a medium of cyclohexane and liquid ammonia. To reduce processing time, the tubular reactor is pressure-fed cyclohexane (50-150 atm) plus 25 -- 45% nitric acid in a 1.4 -- 0.5 molar ratio. At the reactor outlet, the reaction mixture is rapidly cooled to 25 -- 30°C without lowering the pressure. The nitrocyclohexane is then separated from the mixture by conventional methods and reduced, within 40 -- 45 min at 180 -- 200 atm and a temperature which is gradually increased from 80 -- 85°C to 115 -- 120°C, to cyclohexanoxime which is subsequently converted to E-caprolactam by conventional methods. To ensure a constant temperature of 200 -- 250°C, the reactor walls at the inlet are washed.

Cord 1/2

UDC: 547.466.3.07

OVAKIMIAN, R.R., mladshiy nauchnyy sotrudnik

Unconditioned and conditioned vascular reflexes in tuberculous meningitis in children. Probl.tub. 37 no.5:77-83 '59.  
(MIRA 12:10)

1. Iz eksperimental'nogo sektora (zav. - deystvitel'nyy chlen AMN SSSR prof. N.A. Rozhanskiy [deceased]) Rostovskogo-na-Donu nauchno-issledovatel'skogo instituta akushерства i pediatrii (dir. - kand.med.nauk F.S. Baranovskaya, zam.direktora po nauchnoy chasti - prof. I.Ya. Serebriyskiy).

(VASOMOTOR SYSTEM - physiology)

(TUBERCULOSIS, MENINGEAL - in infancy & childhood)

(REFLEX, CONDITIONED)

OVAKIMIAN, R.R.

Unconditioned and conditioned vascular reflexes in healthy  
children. *Pediatriia* 37 no.12:57 D '59. (MIRA 13:5)  
(REFLEXES)

OVAKIMIAN, R.R.

Features of vascular conditioned reflexes in puppies. Zhur.vys.  
nerv.deiat. 11 no.3: 500-503 My-Je '61. (MIRA 14:7)

1. Institute of Obstetrics and Pediatry, Rostov-on-Don.  
(CONDITIONED RESPONSE) (BLOOD VESSELS)

OVAKIMIAN, R.R.

Interrelationship of various vascular reflexes in puppies.  
Fiziol.zhur. 47 no.2:205-209 F '61. (MIR 14:5)

1. From the Experimental Divisions of the Research Institute of  
Pediatry and Obstetrics, Rostov on Don.  
(CONDITIONED RESPONSE) (CARDIOVASCULAR SYSTEM)

SOV-124 58 4 4477

Translation from: Referativnyi zhurnal. Mekhanika 1958 N 4 p. 1 USSR

AUTHOR: Ovakimyan, S. G.

TITLE: Bending of a Thin Rectangular Plate Clamped Along Its Entire Periphery (Izgib tonkov pravougol'noy ploshchadki zashchemlennyy po vsemu konturu)

PERIODICAL: Sb. nauchn. tr. Yerevansk. politekhn. inst. 1957 Nr 14  
pp 3-12

ABSTRACT: By applying the method of conformal representation, the author examines the flexure of a thin rectangular plate clamped along its entire periphery. The problem is solved for two types of load, one uniformly distributed over the entire surface of the plate, the other distributed over the surface of a circle with radius  $R$ , the center of which coincides with the center of the plate. At the limit the latter presents the case of a concentrated force applied to the center. Values of the deflection at the center of the plate are obtained for various  $b/a$  ratios of the sides of the rectangle. In the case of a square plate and in the case of  $b/a = 0.5$ , under a continuous uniform load, these values are compared to the results obtained by other authors using different methods of solution.

V D Peshtmaldzhyan

Card 1/1

1. Metal plates--Deflection    2. Mathematics

OVAKINTAN, L.O.

Device for automatic measurement of diameters of parts subjected  
to turning. Mauch.dokl.vys.shkoly; mash. i prib. no.1:227-235  
'59. (MIRA 12:8)

1. Stat'ya predstavlena kafedroy "Teoriya mekhanizmov i mashin"  
Vsesoyuznogo zaochnogo mashinostroitel'nogo instituta.  
(Measuring instruments)

OVAKIMIAN, L.G., kand. tekhn. nauk

Determining the main moment of inertia forces of a mechanism.  
Izv. vys. ucheb. zav.; mashinostr. no.9:115-121 '58.  
(MIRA 12:10)

1. Moskovskiy aviationsionnyy institut.  
(Moments of inertia)

OVAKIMIAN, L.G., kandidat tekhnicheskikh nauk.

Zhukovskii's link used in three-dimensional mechanisms. Trudy MAI no.72:  
73-99 '59  
(Links and link-motion)

OVAKIMIAN, P.K.

Veterinary service for animal husbandry in Shaumyana District.  
Veterinariia 33 no.8:22-24 Ag '56. (MIRA 9:9)

1. Starshiy veterinarnyy vrach Shaumyanskoy mashino-traktornej  
stantsii, Shaumyanskogo rayona, Armyanskoy SSR.  
(Shaumyana District--Veterinary medicine)

OVAKIMIAN, R.R. (Rostov-na-Donu)

Pneumatic finger plethysmograph. Vrach.delo no.3:299 Mr'58  
(MIRA 11:5)

1. Nauchno-issledovatel'skiy institut akusherstva i pediatrii  
Ministerstva zdravookhraneniya RSFSR.  
(PLETHYSMOGRAPH)

OVAKINIAN, R.R.

Specific features of vascular reactions in puppies. Fiziol.  
zhur. 45 no.8:969-975 Ag '59. (MIRA 12:11)

1. From the Experimental Division, Research Institute of  
Obstetrics and Paediatrics, Rostov on the Don.  
(BLOOD VESSELS, physiology)

OVANDER, L.N.

Elementary theory of the generation of radiation at raman frequencies.  
Fiz. tver. tela 6 no.6:18'3-1895 Je '64. (VI A 17:7)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R0012

Ovander, L.N.

51-6-14/26

AUTHOR: Ovander

TITLE: Scat Bar p<sup>c</sup> ons far from the Absorption astvorakh vdali ot polosy

PERIODICAL: Vol.II, Nr.6,

ABSTRACT: A r develops a theory  
of .. uses a solution model  
(Refs. 1, .. nition that optical  
electrons of the .. solute (these  
molecules are called imp. es) move much  
more slowly than electrons. ent molecules.  
On this model the system can be considered as consisting  
of only the optical electrons of the impurity molecules  
and of the nuclei of the solvent molecules. In this  
way the absorption spectrum of the impurity molecules  
falls in the region of transparency of the solvent. It  
is assumed that the solution is weak, i.e. that the  
solute concentration is small and that interaction  
between the impurity molecules can be excluded. Only

AUTHOR: Ovander, L.N.

TITLE: Raman Scattering of Light by Solutions in the Absorption-band Region  
(Kombinatsionnoye rassayaniye sveta rastvorami v tsifri v oblasti pogloshcheniya)

PERIODICAL: Optika i Spektroskopiya, 1958, vol IV, Nr 5, pp 885-892 (U.S.R.)

ABSTRACT: The present paper is an attempt to find theoretically the properties of Raman scattering for the case when the incident light frequency is in the absorption-band region. The author uses a solution model described in Refs. 2-4. The description of this model is not given in the present paper. The author gives the results of calculations in Ref. 2. He shows that the Raman intensity is proportional to a certain part of the absorption spectrum. The red satellite has its own "part" (part A) of the absorption spectrum, shown schematically in Fig. 1, and the violet satellite has its own "part" also (part B in Fig. 1). Fig. 3a shows the incident-light spectrum, Fig. 3b shows part A of the absorption spectrum and Fig. 3v shows the red Raman satellite. The Rayleigh component of the violet satellite is not shown in Fig. 3. The Raman spectrum structure and its dependence on

Card 1, 2

10576  
24 2130

S/58/6.2/17/13/3/4  
A2/1/21/1

AUTHOR: vanier, L. M.

TITLE: The temperature dependence of Raman and Infrared-Optical doublet intensities

PERIODICAL: Referativnyy zhurnal, Fizika, n. 3, 1981, v. 63, no. 10, p. 2211-2214 ("Visnyk Kyiviv's'k. un-tu, 1981, no. 3, Ser. fiz., mat., p. 81-83, Ukrainian; Russian summary)

TEXT: The deviation of the temperature dependence of intensity of infrared and Raman spectra of crystals from the formula, known for diatomic molecules, is due to intermolecular interactions. They are described by a model in which two oscillating oscillators represent intramolecular and intermolecular oscillations, respectively. The probability of intramolecular oscillatory transition is expressed in series by the powers of the quantum number of the initial condition, and the formula for intensity takes the form of a sum of two terms, depending on the coefficient of this expansion and on the oscillation frequencies of both oscillators. The rise or drop of intensity with temperature increase is determined by the relationship between the signs of these two terms. It depends on the signs

Card 1/2

The temperature dependence of...

175600  
AC-1/KR1

of the constants of the electric and mechanical interaction (tp). This can also be determined by suitable approximation. The two constants are dependent on the solids. The interaction energy depends on the distance between the particles. The temperature dependence of intensity is determined by the sign of coefficient of frequency change under the effect of intermolecular interaction. Intensity changes with temperature if frequency becomes lower, and vice versa.

M. K. Vner

[Abstracter's note: Complete translation]

Card 2/2

3/185/60/005/001.003/015  
A151/A029

AUTHOR: Ovander, L.M.

TITLE: The Temperature Dependence of the Intensity of the Combination Scattering Lines in Gases, I.

PERIODICAL: Ukrayins'kyy Fizychnyy Zhurnal, 1960, Vol. 5, No 1, pp 26 - 33

TEXT: The paper investigates various cases at which the temperature dependence of the combination scattering lines deviates from the formula given by Vol'kenshteyn (Ref. 1):  $I = \frac{1}{1 - e^{-\frac{h\nu}{kT}}}$ , where  $I$  is the intensity of the combination scattering lines,  $\nu$  is the frequency of the corresponding vibration. The formula (1) can be obtained when the intensity of the combination scattering lines, which is responsible for the transition  $n \rightarrow n + 1$ , will be proportional to  $n + 1$ , that is  $W_{n,n+1} = Q(n + 1)$ , where  $W_{n,n+1}$  is the probability of dispersion in the case of the transition from  $n$  - fluctuations to the  $n + 1$ st fluctuation;  $Q$  is the value independent of  $n$ . The dependence (2) can be derived in cases when the polarizability theory is correct and when the mechanical and electric nonharmonism is absent. When considering the above-mentioned effects or the deviation from the polarizability theory, a deviation from the formula (1) can be

Card 1/3

S/185/60/005/001,00  
A151/A029

The Temperature Dependence of the Intensity of the Combination Scattering Lines  
in Gases, I

expected. A deviation from the temperature dependence can appear at the expense of the  $n$  degrees in formula (2). Actually,  $W_{n,n+1}$  as a function of  $n$  can be expanded in a row according to the  $n$  degrees:  $W_{n,n+1} = Q_0(n+1) + Q_1 n^2 + \dots$ . Knowing the value  $Q_1$  and its symbol, the temperature dependence flow can be determined when the temperature is increasing. This flow is more or less intense than that shown by formula (1). The temperature increase will be weaker when  $Q_1$  is negative and stronger when  $Q_1$  is positive. The value of the effect is dependent on the value  $Q_1$  compared with  $Q_0$ . In the next two paragraphs, the author investigates the displacement of the location of balance, the approach of the frequency of the incidence of a ray of light to the absorption band, the effect of the non-harmonism of fluctuations and the changes in frequency. It has been ascertained that when raising the temperature, the increase in intensity slackens proportionally with the approach of the incident light frequency to the absorption band. "For the entrance of the frequency into the absorption band, deviations in both directions can occur. Figure 2 shows the zones, in which more or less strong increase in the intensity with temperature will take place. In conclusion, the author states that deviations from the temperature dependence can occur when making a-

Card 2/3

3.155/66/004/001.001  
A151/A029

The Temperature Dependence of the Intensity of the Combination Scattering Lines in Gases. I.

allowance for the presence of the nonharmonism of fluctuations, the approach of the frequency of the incident ray of light toward the absorption band and the changes in the fluctuation frequency during passing to the excited electron state. The effect proves to be greatest, when the frequency of the incident light enters the absorption band, as well as during the change of the frequency of fluctuations. It is pointed out that the results of this research work should not be compared with data given by Ya.S. Bobovych and L.M. Fyshkova (Refs. 2 and 3), since the latter were obtained by experiments conducted in liquids, and the theory in this work is developed for gases. The results of this work can be compared with those obtained by V.M. Pyvovarov and Ya.S. Bobovych (Ref. 4). There are 2 figures and 4 Soviet references

ASSOCIATION Kyyivs'kyy derzhavnyy universytet im. T.G. Shevchenka (Kiyev State University imeni T.G. Shevchenko).

SUBMITTED: June 23, 1959

Card 3/3

OVANDER, L.B. [Ovander, L.M.]

Temperature dependence of the intensity of Raman dispersion  
lines in gases. Part 2. Ukr.fiz.zhur. 5 no.3:363-367 My-Je  
'60. (MIRA 13:8)

1. Kiyevskiy gosudarstvenny universitet im.T.G.Shevchenko.  
(Raman effect) (Gases--Spectra)

OVANDER, L.N.

On the form of the combination scattering tensor. Opt. i spektr.  
9 no.5:571-575 1960. (MIRA 13:11)  
(Raman effect) (Crystals--Spectra)

OVANDER, L.H.

Relation between an absorption spectrum and the dependence of the Raman spectrum on the incident light frequency. Opt. i spaktr. 10 no. 3:420-421 Mr '61. (MIRA 14:8)  
(Raman effect) (Absorption spectra)

OVANDER, L.N.

Temperature dependence of infrared absorption lines. opt.i  
spektr. 11 no.1 129 131 31 61  
(Spectrum Infrared)

GRECHKO, L.G.; OVANDER, L.N.

Some characteristics of the Raman effect in piezoelectric crystals. Fiz. tver. tela 4 no.1:157-162 Ja '62. (MIRA 15:2)

1. Kiyevskiy gosudarstvennyy universitet imeni T.G.  
Shevchenko.

(Piezoelectric substances)  
(Raman effect)

OVANDER, L.N.

Absorption spectrum in a crystal caused by polaron decay.  
Fiz. tver. tela 4 no.1:294-295 Ja '62. (MIRA 15:2)

1. Kiyevskiy gosudarstvennyy universitet imeni T.G.  
Shevchenko.

(Crystals—Spectra)  
(Raman effect)

AUTHOR:

Ovander, L. N.

TITLE:

Periodical: Fizika tverdogo tela, v. 4, no. 6, 1962, 1466 - 1470

TEAT: Nondegenerate and doubly degenerate vibrations have been examined  
in Raman spectra of tetragonal crystals with simple lattice and molecules  
of  $C_{4v}$  sym.etry.

The frequency of the nondegenerate vibrations have been examined  
 $\omega^2 = \omega_0^2 + A\cos^2\theta$ , where  $\theta$  denotes the angle formed by the normalized wave  
vector  $\vec{s} \cdot \vec{k}/k'$  and the z-direction. In the case of doubly degenerate  
vibrations, the frequency of the longitudinal vibration reads  $\omega^2 = \omega_0^2$   
 $+ B\sin^2\theta$ , while that of the transverse vibration is  $\omega_0^2$ .  $A$  and  $B$  are  
coefficients of additional terms in formulas relating to the dielectric

S/181/62/004/006/012/051  
B125/B104

24.7000

30207

8/18/62/004/006/013/051  
B125/B104AUTHOR: Ovander, L. N.

TITLE: Raman resonance scattering in crystals

PERIODICAL: Fizika tverdogo tela, v. 4, no. 6, 1962, 1471 - 1473

TEXT: In continuation of a paper by L. N. Ovander (FTT, 3, 2394, 1961), the intensity of Raman scattering has been examined as a function of the frequency of incident light. The present study is restricted to vibrations without dipole moment, and only one excited electron state with the frequency  $\omega_0$  is assumed to exist. The frequency of incident light is

assumed to be within the range of absorption, and that of scattered light

APPROVED FOR RELEASE: Wednesday, June 21, 2000 city CIA-RDP86-00513R001238

then reads:

$$I = \text{const} \frac{1}{v(\omega) \omega^2} \frac{1}{(\omega - \omega_0)^2 + T^2} I_0$$

(1).  $\omega$  is the frequencyof incident light,  $v(\omega)$  the group velocity of the polariton packet,  
 $I_0$  the intensity of polariton flux in the crystal,  $I_0'$  the intensity

Card 1/0 2

(Kiyev State University imeni T. G. Shevchenko)

SUBMITTED: January 10, 1962

Card 2/0 2

44,001

5/051/02/012/006/004/020  
E052/E514

AUTHOR: V. A. GOL'F, E. S.

TITLE: Effect of low-frequency infrared absorption lines. II.

JOURNAL: Zhurn. radiofizika i radioastrofizika, v. 12, no. 6, p. 1222,  
711 - 714.

ABSTRACT: In a previous paper (Ref. 2 - Opt. i Spektr., 11, No. 1, 1979) the author discussed the effect of low-frequency vibrations on the absorption spectrum associated with high-frequency vibrations, using the anharmonic approximation.

The interaction is considered on the adiabatic approximation in the present note. As in the above paper, it is assumed that  $\exp(\hbar/\Delta)/\epsilon^2 \ll \exp(\hbar/\Delta)$ , where  $\Delta$  is the frequency of intramolecular vibrations and  $\epsilon$  is the frequency of molecular vibrations. The operator describing the interaction of a molecular crystal with radiation is derived and is used to obtain a general formula for the integral intensity of infrared absorption lines due to intramolecular vibrations. It is con-

Scanned 1/2

Temperature-dependence of ....

S/051/62/012/006/001/020  
E012/E514

With the internal intensity of the absorption lines is a linear function of temperature. However, the sign of the constant entering into this relation has not been determined.

SUBJTYPE: May 6, 1951

Card 2/2

47400  
S/051/62/012/006/005/020  
E039/E420

AUTHOR: Ovander, L.N.

TITLE: Combination scattering in piezoelectric crystals

JOURNAL: Optika i spektroskopiya, v.12, no.6, 1962, 718-722

TEXT: This paper describes a theoretical investigation of combination scattering in piezoelectric crystals. It is applied to crystals of cubic symmetry but the method can also be used for crystals of other symmetry. The properties of the tensor defining the intensity of combination scattering are examined by applying a perturbation to the system. It is shown that the tensor is insensitive to small perturbations and as a result an adiabatic wave function approximation can be used neglecting the non-adiabatic operator. The calculations show that two frequencies will be observed: a large longitudinal oscillation and two smaller degenerate transverse oscillations. Equations are derived for the scattered intensity in the longitudinal and transverse oscillations. These equations show that the longitudinal component has a large backwards scatter and the transverse forward. In the case when the longitudinal and

Card 1/2

S/051/62/012/006/005/020  
E039/E420

Combination scattering ...

transverse components cannot be separated spectroscopically, then more backward scattering is observed as the intensity of the longitudinal oscillation is greater than the transverse. Equations for the degree of polarization are also derived. There are 2 figures.

SUBMITTED: Apr 11, 1961

Card 2/2

100-13

8/181/63/005/001/003/064  
B102/B186

AUTHOR: Ovander, L. N.

TITLE: Rayleigh scattering in crystals

PUBLISHER: Fizika tverdogo tela, v. 5, no. 1, 1963, 21-25

TEXT: Here the fact that electromagnetic wave propagation in crystals can be treated quite generally like the motion of quasiparticles is applied to Raman scattering from phonons, i.e. Rayleigh scattering. This process is looked upon as the transmutation of one exciton into another (cf. Ovander, FTT, 1, 2395, 1961). The fine structure of the Rayleigh line consists of a weak unshifted line, disregarded in this case, and of the sextet of the Mandel'shtam-Brillouin components. One of the sextet lines, that has a longer wavelength than the unshifted line, is calculated here. Proceeding from the energy operator

$$H_{sp} = H_{ex} + \sum_{ij} E_i B_{ij}^* B_{ij} + \frac{1}{2} \sum_{\alpha, j_1} V_{\alpha j_1} (jj_1) B_{ij}^* B_{\alpha j_1}, \quad (1)$$

of the molecular crystal observed, the third order component resulting

Card 1/6

Rayleigh scattering in crystals

S/181/63/005/001/003 04  
B102/B186

From the operator of interaction with radiation is calculated. It is in fact this component that causes the scattering. The result reads

$$H_{sp}^{(3)} = \sum_{\mathbf{k}, \mathbf{k}_1, \mathbf{k}_2, r} S(\mathbf{k}, \mathbf{k}_1, \mathbf{k}_2, r) B_{\mathbf{k}}^*(\mathbf{k}) B_{\mathbf{k}_1}(\mathbf{k}_1) D_r^*(\mathbf{k}_1 - \mathbf{k}), \quad (6)$$

where

$$\begin{aligned} S(\mathbf{k}, \mathbf{k}_1, \mathbf{k}_2, r) = & S_1 + S_2 + S_3 = \sum_{ff_1} E_f u_{ff_1}^*(\mathbf{k}) u_{f_1 k_1}(\mathbf{k}_1) i((\mathbf{k}_1 - \mathbf{k}), g'_{k_1 - k_2}) + \\ & + 2i \sum_{ff_1, f_1} V_{ff_1}(ff_1) u_{ff_1}^*(\mathbf{k}) u_{f_1 k_1}(\mathbf{k}_1) g'_{k_1 - k_2}(k_1 e^{ik_1 \omega_{ff_1}} - k_1 e^{ik_1 \omega_{ff_1}}) + \\ & + 2 \sum_{s, ff_1} \frac{\partial V_{ff_1}(ff_1)}{\partial R_{sf}^*} g'_{k_1 - k_2} u_{ff_1}^*(\mathbf{k}) u_{f_1 k_1}(\mathbf{k}_1) (e^{ik_1 \omega_{ff_1}} - e^{ik_1 \omega_{ff_1}}). \end{aligned} \quad (7)$$

$H_{ak}$  is the Hamiltonian of acoustic oscillation,  $s$  the number of the molecule,  $f$  the number of the free-molecular state,  $E_f$  the state energy;  $V_{ff_1}(ff_1)$  is the matrix element of the molecule interaction operator, and  $B_{sf}^*$  and  $R_{sf}$  are noise operators describing the behavior of the  $s$ -th

Card 2, 6

Rayleigh scattering in crystals

S/181/61/005/001 1003 114  
B102/B186

molecule.  $b_r(\vec{q})$  and  $b_{r,\dagger}$  are the phonon production and annihilation operators,  $\vec{q}$  is the wave vector,  $r$  the branch number, and

$$B_{\mu} = N^{-1} \sum_{\mathbf{k}} a_{\mu\mathbf{k}}(\mathbf{k}) e^{i\mathbf{k}\cdot\vec{r}_s} B_{\mu}(\mathbf{k}), \quad (4)$$

where  $\mathbf{k}$  is the wave vector,  $\mu$  the zone number,  $\vec{r}_s = \vec{r}_{sg} + \vec{i}_s$ . It can be seen from (1) that  $S_1:S_2:S_3 = E:V:V$ , where  $E$  is the electron state excitation energy and  $V$  the energy of intermolecular interaction. Since  $S_1 > S_{2,3}$ ,  $S_{2,3}$  are neglected. The resulting expression for the third-order component of the operator of interaction with radiation is

Card 3/6

Rayleigh scattering ( $\omega = \omega_0$ )S/181/63, 00513001, 11/1/81  
B102/P186

$$\begin{aligned}
H_{\text{sc}}^{(3)} &= \sum_{q, b, j, r} (R_{q, j, \mu, k, q + k, r} a_j^*(\mathbf{q}) B_\mu(\mathbf{k}) D_r^*(\mathbf{k} + \mathbf{q}) + \\
&+ R_{q, j, \mu, k, -q + k, r} a_j^*(\mathbf{q}) B_\mu(\mathbf{k}) D_r^*(\mathbf{k} - \mathbf{q}) + R_{q, j, \mu, k, k, r}^* a_j(\mathbf{q}) B_\mu^*(\mathbf{k}) D_r^*(\mathbf{q} - \mathbf{k}) + \\
&+ R_{q, j, \mu, k, k, -q, r}^* a_j^*(\mathbf{q}) B_\mu^*(\mathbf{k}) D_r^*(\mathbf{-q} - \mathbf{k})) + \\
&+ \sum_{j_1, j_2, q_1, q_2} \frac{\hbar \omega_0^2}{4c \nu_{q_1 q_2}} (P_{j_1, j_2}(q_1 q_2) a_{j_1}(q_1) a_{j_2}(q_2) D_r^*(q_1 + q_2) + 2 P_{j_1, j_2}(-q_1 q_2) \times \\
&\times a_{j_1}(q_1) a_{j_2}^*(q_2) D_r^*(q_1 - q_2) + P_{j_1, j_2}(-q_1 - q_2) a_{j_1}^*(q_1) a_{j_2}(q_2) \times \\
&\times D_r^*(-q_1 - q_2)) = H_{\text{sc}, I}^{(3)} + H_{\text{sc}, II}^{(3)}, \tag{10}
\end{aligned}$$

where  $\mathbf{q}$  is the photon wave vector,  $\sigma$  the direction of polarization, and  $a_j^*(\mathbf{q})$  and  $a_j(\mathbf{q})$  are the creation and annihilation operators;

$$R_{q, j, \mu, k, q + k, r} = -i \sum_l \sqrt{\frac{2\pi\hbar}{\nu_{q\mu}}} \left( \epsilon_{rj}, \sum_s \frac{e_s}{m_s} (\mathbf{l}_s)_{js} \right) u_{j\mu}(k) (k + q, y_{rs+s}), \tag{11}$$

$$P_{j_1, j_2}(q_1 q_2) = (\epsilon_{r_1 j_1} \epsilon_{r_2 j_2})(y_{r_1 + r_2}, q_1 + q_2), \tag{12}$$

Card 4/6

Rayleigh scattering intensity:

S, 191, 61 (continued)  
3102, R186

$e$  and  $m$  - electric charge and mass,  $N$  - number of molecules in the crystal,  $n$  - refractive index,  $\epsilon^{(1)}_{\text{sc}} \epsilon^{(3)}_{\text{sc}}$  - polarization vector of incident (scattered) quantum,  $\omega$  - light frequency,  $\hat{i}_{\text{of}}$  - matrix element of momentum operator,  $I_0 e_i$  - intensity of incident light,  $I(e_k)$  - scattering intensity. For the ratio of the components  $\sigma^{(1)}/\sigma^{(3)}$ ,  $(t_{\text{sc}} t_f)/t_f$ ,  $c^{(1)} = c^{(2)}$  will hold.

PERMITTED CITY, 196

Card 6/6

1111111111

AID Nr. 957-1 15 May

THEORY OF NONLINEAR OPTICAL EFFECTS (USSR)

Ovander, L. N. Fizika tverdogo tela, v. 5, no. 3, Mar 1963, 872-873.  
S/181/63/005/003/025/046

A theoretical formula is obtained which relates the intensity ( $I'$ ) of emission of the first harmonic ( $2\omega$ ) produced in crystals under conditions of high-density emission such as occurs in lasers to the intensity ( $I_0$ ) of emission of the fundamental optical frequency  $\omega$ . The formation of the first harmonic is treated as a conversion of two excitons with frequency  $\omega$  into one exciton with frequency  $2\omega$ . The formula obtained is

$$I' = \frac{2\omega V^2}{\pi^2 h^3} \left| \frac{n_1^2 n_2^3}{c^5} \right| H_A' \left| \alpha b \right|^2.$$

Card 1/2

AID Nr. 967-1 15 May

## THEORY OF NONLINEAR [Cont'd]

S/181/63/005/003/025/346

where  $I'$  is the intensity of exciton current with frequency  $2\omega$ ,  $V$  is the volume of the crystal,  $n_1$  is the refractive index for  $\omega$ ,  $n_2$  is the refractive index for  $2\omega$ ,  $c$  is the speed of light in vacuum,  $I'_0$  is the intensity of exciton current with frequency  $\omega$ , and  $H'_A$  is the molecular interaction operator which under condition of the molecule possessing one optical electron equals

$$H'_A = - \frac{2e^3}{m^3} \left( \frac{2\pi h}{V} \right)^{1/2} N \sum_{f, f'} I'_{0f} I'_{ff'} I'_{f'0} \times \\ x \left\{ \frac{1}{(\hbar\omega - E_f)(2\hbar\omega - E_{f'})} + \frac{1}{(\hbar\omega + E_f)(2\hbar\omega + E_{f'})} + \frac{1}{(E_f - \hbar\omega)(E_{f'} - \hbar\omega)} \right\}$$

where  $e$  is electron charge,  $m$  is electron mass,  $N$  is the number of molecules in the crystal,  $E_f$  is energy of the excited state,  $I'_{0f}$  and  $I'_{ff'}$  are the matrix elements of the momentum operator of the molecule. It is noted that direct verification of the formula requires correlation of  $I'_{0f}$  and  $I'_{ff'}$  in vacuum, which must be done separately for each particular case.

(BT)

Card 1/2

OVANDER, L.N.

Contribution to the theory of the frequency doubling effect  
in ferrites. Izv. vys. ucheb. zav.; radiofiz. 6 no.2:267-274  
'63. (MIRA 16:6)

1. Kiyevskiy gosudarstvennyy universitet.  
(Ferrates) (Electromagnetic waves)

L17777-63

EWT(1)/EDS

AFFTC/ABD/ESD-3/JP(C)/SSD

ACCESSION NR: AP3005855

S/0051/63/015/002/0281/0282

AUTHOR: Ovander, I. N.

56

TITLE: On incoherent Rayleigh scattering

TOPIC TAGS: Rayleigh scattering, incoherent radiation

SOURCE: Optika i spektroskopiya, v.15, no.2, 1963, 281-

ABSTRACT: This note treats the conditions under which either coherent or Rayleigh scattering by molecules is observed. The method of calculation is due to Heitler (Quantum Theory of Radiation, Oxford, 1934). The author shows that Rayleigh scattering from molecules is coherent if the molecules have no translational motion but is incoherent when the molecules are moving, the light scattered from a free molecule in any direction except that of the incident light is incoherent since the molecule's translational wave vector has changed in order to conserve momentum. If the scattering is incoherent, the squares of the scattered amplitudes must be summed over the molecules of the system. Equations for the wave functions are given. Orig.art.has: 4 formulas.

Card 1/1

OVANDER, L.N.

Form of the Raman scattering tensor in crystals. Fiz. tver. tela 6 no.  
2:361-367 F. 1964.  
(MIRA 17:2)

1. Kiyevskiy gosudarstvennyy universitet imeni T.G.Shevchenko.